

Describing Regional Interdependence for a Patient with Lateral Epicondylalgia Managed with Postural Training and Iontophoresis: A Case Report



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Background

Lateral epicondylalgia describes a condition where pain and tenderness are present in the wrist extensors, most commonly from repetitive motion activities. Current research suggests the cause is attributed to tissue degeneration due to repetitive stress to the wrist extensors. A concept known as regional interdependence may also influence lateral epicondylalgia. Regional interdependence describes a condition where impairments are present in proximal or distal joint segments and contribute or cause pain to the primary region reported by the patient. Iontophoresis, a common intervention utilized for treating lateral epicondylalgia is intervention that uses electrical current to drive ionic drugs into the skin near the area of pain or inflammation. Iontophoresis can provide benefits including increased range of motion, decreased pain, and increased functional benefits. Research suggests 6 treatments are adequate for improvement.



Purpose

To describe the physical therapy management of a patient with lateral epicondylalgia using a regional interdependence model, utilize iontophoresis to help decrease pain and examine the relationship of regional interdependence with lateral epicondylalgia.

Case Description

- 41-year-old female who was cleaning a telephone at work and felt a sudden onset of sharp pain in the posterolateral aspect of left elbow
- Reported radiating pain down left arm and numbness/tingling in left hand.
- Chief complaints are 10/10 pain, decreased ROM, decreased strength, inability to perform specific work duties.
- Standardized examination revealed decreased range of motion, decrease strength, and grip strength deficits to the left upper extremity.
- Positive Cozen's, Mill's, and Resisted Third Digit Extension Test.
- Plan of care included frequency of 3 times a week for a duration of 8 weeks.

Outcomes

- Table A: Quick DASH score decrease from 52.3% to 27.3%.
- Table B: Range of motion increase in left upper extremity.
- Table C: Increase in left hand grip strength from 17.5 lbs to 40 lbs.

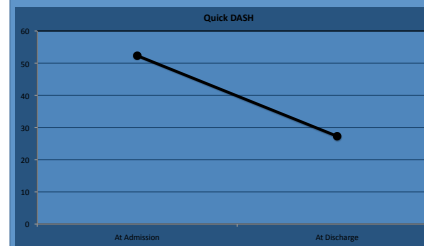


Table A

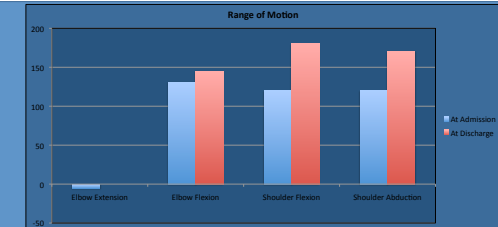


Table B

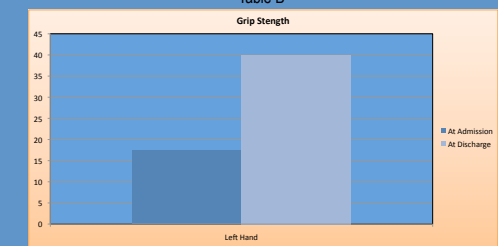


Table C

Interventions



Therapeutic Exercise



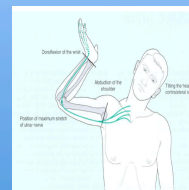
Manual Therapy



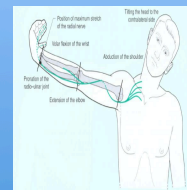
Iontophoresis



Functional Training in Home and Work Activities



Upper Extremity Nerve Glides



Discussion

The patient experienced a decrease in neurological symptoms and increased range of motion and strength following treatment utilizing a regional interdependence model. Correcting the patients posture and poor body mechanics may have resulted in decreased pain while performing exercises and simulated work activities. Iontophoresis provided only temporary benefit, but can be used to manage acute symptoms while working to improve range of motion and strength. Additional research is needed to explore the relationship of regional interdependence and any influence it may have on outcomes, as little research is currently available.